Safety Data Sheet
PermaRed/AP and PermaRed/AP-Auto (EU)

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Product name	PermaRed/AP and PermaRed/AP-Auto (EU)
Product number	K057, K057-AUTO Plus, K057 AUTO Plus-110
Brand	PermaRed/AP and PermaRed/AP-Auto

Other means of identification
COMPONENT 1 (K 057C)
COMPONENT 2 (K 057B)

1.2 Relevant identified uses of the substance or mixture and uses advised against
In Vitro Diagnostics
Immunohistochemistry
In Situ Hybridization

1.3 Details of the supplier of the safety data sheet

Name	Diagnostic Biosystems
Address	6616 Owens Drive Pleasanton CA 94588 USA
Telephone	(888) 896-3350
email	customersupport@dbiosys.com

1.4 Emergency telephone number

(925) 484-3350 (Mon - Fri- 9AM-4PM, Pacific Standard Time)

SECTION 2: Hazards identification

General hazard statement
For professional users only

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 (CLP)

This product does not meet the criteria for classification in any hazard class according to Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008 [CLP]

This product does not meet the criteria for classification in any hazard class according to Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures.

2.3 Other hazards

No other hazards are identified

Statement regarding ingredients of unknown toxicity
No other hazards identified

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Hazardous components

1. Hydrochloric acid

Concentration	< 0.5 % (volume)
Other names / synonyms	Acidum hydrochloricum; hydrogen chloride; HYDROGEN CHLORIDE (gas)
EC no.	231-595-7
CAS no.	7647-01-0
Index no.	017-002-01-X

- Skin corrosion/irritation (chapter 3.2), Cat. 1
- Eye damage/irritation (chapter 3.3), Cat. 1
- Acute toxicity, inhalation (chapter 3.1), Cat. 3

H314	Causes severe skin burns and eye damage
H318	Causes serious eye damage
H331	Toxic if inhaled
SCLs/M-factors/ATEs	Skin Corr. 1B; H314: C ≥ 25 %
	Skin Irrit. 2; H315: 10 % ≤ C < 25 %
	Eye Irrit. 2; H319: 10 % ≤ C < 25 %
	STOT SE 3; H335: C ≥ 10 %

2. Sodium chloride

Concentration	0.5 - 1 % (weight)
Other names / synonyms	COMMON SALT; DENDRITIS; H.G. BLENDING; HALITE; Natrii chloridum; product-by-process definition polyazodyestuff obtained by coupling 4-[4-(1-amino-8-hydroxy-3,6-disulfo-2-naphthylazo)phenylsulfonylamino]benzenediazonium with reaction mass of 4-carboxybenzenediazonium and diphenylamine-3-sulfo-4,4'-bisdiazonium, and further coupling of the obtained compounds with reaction mass of naphth-2-ol and 3-aminophenol, sodium salts; PUREX; ROCK SALT; SALINE; SALT; SEA SALT; Sodium chloride ; Sodium chloride (NaCl); SODIUMCHLORIDE; STERLING; TABLE SALT; TOP FLAKE; USP SODIUM CHLORIDE; WHITE CRYSTAL
EC no.	425-740-5
CAS no.	7647-14-5

Index no.	611-142-00-3

- Eye damage/irritation (chapter 3.3), Cat. 1
- Hazardous to the aquatic environment, long-term (chronic) (chapter 4.1), Cat. 3

H318	Causes serious eye damage
H412	Harmful to aquatic life with long lasting effects

3. Magnesium chloride Hexahydrate

Concentration	1 - 2 % (weight)
Other names / synonyms	Magnesium chloride, hexahydrate
CAS no.	7791-18-6

4. Tromethamine

Concentration	1 - 2 % (weight)
Other names / synonyms	1,3-Propanediol, 2-amino-2-(hydroxymethyl)-; Tris; Trometamol;
CAS no.	77-86-1

5. Surfactant*

Concentration	0.1 - 0.2 % (weight)

6. Phosphate substrate*

Concentration	0.1 - 0.2 % (weight)

Trade secret statement
*The specific chemical identities and/or actual concentrations or actual concentration ranges for one or more listed components are being withheld as trade secrets.

SECTION 4: First aid measures

4.1 Description of first aid measures

General notes	Consult a physician. Show this safety data sheet to the doctor in attendance.
Following inhalation	If breathed in, move person into fresh air. If not breathing, give artificial respiration.
	Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

Following skin contact	Rinse with plenty of water. Get medical attention if irritation develops and persists.
Following eye contact	Rinse thoroughly with plenty of water for at least 15 minutes. Get medical attention if symptoms occur.
Following ingestion	Call a poison center or doctor if you feel unwell. If vomiting occurs naturally, have victim lean forward to reduce the risk of aspiration. Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person.
Self-protection of the first aider	Wear protective gloves/protective clothing/eye protection/face protection.

4.2 Most important symptoms and effects, both acute and delayed
The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed
Consult a physician. Show this safety data sheet to the doctor in attendance.

SECTION 5: Firefighting measures

5.1 Extinguishing media
Dry powder

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2 Special hazards arising from the substance or mixture
Carbon oxides

Sodium chloride : Hydrogen chloride gas, Sodium oxides

5.3 Advice for firefighters
Wear self-contained breathing apparatus for firefighting if necessary.

Further information
May intensify fire; oxidiser.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas. For personal protection see section 8.

Ensure adequate ventilation. Use personal protective equipment. For personal protection see section 8.

Use personal protective equipment. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas. For personal protection see section 8.

6.2 Environmental precautions
Should not be released into the environment. See Section 12 for additional ecological information.

6.3 Methods and material for containment and cleaning up
Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13).

6.4 Reference to other sections
For disposal see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling
Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Further processing of solid materials may result in the formation of combustible dusts. The potential for combustible dust formation should be taken into consideration before additional processing occurs. Provide appropriate exhaust ventilation at places where dust is formed. For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities
Keep container tightly closed in a dry and well-ventilated place.

7.3 Specific end use(s)
Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

CAS: 7647-01-0
Hydrochloric acid
ACGIH: 2 ppm (C) TLV® inhalation; NIOSH: 5 ppm, 7 mg/m3 REL-C inhalation; OSHA: 5 ppm, 7 mg/m3 PEL-C inhalation

8.2 Exposure controls

Appropriate engineering controls
Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

Individual protection measures, such as personal protective equipment

Pictograms

Eye and face protection
Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection
Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Body protection
Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place., The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection
Respiratory protection is not required. Where protection from nuisance levels of dusts are desired, use type N95 (US) or type P1 (EN 143) dust masks. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Thermal hazards
No data available

Control banding approach
No data available

Environmental exposure controls
Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	Liquid
Appearance	Clear
Colour	Not Applicable
Odour	No data available.
Odour threshold	No data available.
pH	Not Applicable
Melting point/freezing point	No data available.
Boiling point or initial boiling point and boiling range	No data available.
Flash point	No data available.
Evaporation rate	No data available.
Flammability	No data available.
Lower and upper explosion limit/flammability limit	No data available.
Vapor pressure	No data available.
Relative vapor density	No data available.
Density and/or relative density	No data available.
Solubility	No data available.
Partition coefficient n-octanol/water (log value)	No data available.
Auto-ignition temperature	No data available.
Decomposition temperature	No data available.
Kinematic viscosity	No data available.
Explosive properties	No data available.
Oxidizing properties	No data available.

Particle characteristics
No data available.

9.2 Other information

9.2.1 Information with regard to physical hazard classes
No data available.

9.2.2 Other safety characteristics
No data available.

SECTION 10: Stability and reactivity

10.1 Reactivity
None under normal use conditions.

10.2 Chemical stability
Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions
None under normal use conditions.

10.4 Conditions to avoid
Exposure to moisture.

Avoid storing in direct sunlight and avoid extremes of temperature.

Heat, flames and sparks.

10.5 Incompatible materials
Strong oxidizing agents

10.6 Hazardous decomposition products
Other decomposition products - No data available In the event of fire: see section 5

SECTION 11: Toxicological information

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity
Likely Routes of Exposure: Eye contact. Skin contact. Inhalation. Ingestion.
Acute and delayed symptoms and effects from inhalation, skin and eye contact and ingestion are listed in Section 4.

The ATE (gas inhalation) of the mixture is: 64285.71 ppmV

Sodium chloride
LD50 Oral - Rat - 3,550 mg/kg

Skin corrosion/irritation
Sodium chloride
LD50 Skin - Rabbit - > 10,000 mg/kg

Serious eye damage/irritation
Causes serious eye irritation.

Respiratory or skin sensitization
May cause an allergic skin reaction

May cause allergy or asthma symptoms or breathing difficulties if inhaled

Sodium chloride
LD50 Inhalation - Rat - > 42,000 mg/m3 - 1 hr

Germ cell mutagenicity
No data available.

Carcinogenicity
IARC: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by IARC.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.
NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity
No data available.

Summary of evaluation of the CMR properties
No data available.

STOT-single exposure
May cause respiratory irritation.

STOT-repeated exposure
May cause damage to organs through prolonged or repeated exposure

Aspiration hazard
May be harmful if swallowed and enters airways

11.2 Information on other hazards

Endocrine disrupting properties
No data available.

SECTION 12: Ecological information

12.1 Toxicity

Sodium chloride
NOEC - Daphnia magna (water flea) - 1,500 mg/l - 7 d

Sodium chloride
LC50 - Lepomis macrochirus (bluegill) - 5,840 mg/l - 96 h

Sodium chloride
LC50 - Daphnia magna (water flea) - 1,661 mg/l - 48 h

12.2 Persistence and degradability
No data available on product

12.3 Bioaccumulative potential
No data available on product

12.4 Mobility in soil
No data available

12.5 Results of PBT and vPvB assessment
PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

12.6 Endocrine disrupting properties
No data available

12.7 Other adverse effects

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Very toxic to aquatic life with long lasting effects.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product disposal
Offer surplus and non-recyclable solutions to a licensed disposal company.

Packaging disposal
Dispose of as unused product.

Waste treatment
No data available.

Sewage disposal
Sewage disposal is not recommended.

Offer surplus and non-recyclable solutions to a licensed disposal company.

Other disposal recommendations
Dispose of contents/ container in accordance with the local/regional/national/international regulations.

Non Household Setting: Products covered by this SDS, in their original form, when disposed as waste, are considered non hazardous waste according to Federal RCRA regulations (40 CFR 261). Disposal should be in accordance with local, state and federal regulations.

SECTION 14: Transport information

14.1	UN Number	None
14.2	UN Proper Shipping Name	None
14.3	Transport hazard class(es)	None
14.4	Packing group	None
14.5	Environmental hazards	None
14.6	Special precautions for user	None
14.7	Maritime transport in bulk according to IMO instruments	None

SECTION 15: Regulatory information

15.2 Chemical Safety Assessment

No chemical safety assessment has been carried out for this mixture by the supplier

SECTION 16: Other information

SDS-0010, Rev. C

Further information/disclaimer
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